

What is claimed is:

1. A method of manufacturing a tissue matrix for implantation into a patient,
comprising:
 - 5 collecting embryonic stem cells from a placenta which has been treated to
remove residual cord blood and
seeding said collected stem cells onto or into a tissue matrix for implantation
into a patient.
 - 10 2. The method of Claim 1 further comprising perfusing a placenta which has
been drained of cord blood with an anticoagulant solution to flush out residual
cells and collecting said residual cells and perfusion liquid from the drained
placenta for seeding into or onto the tissue matrix.
 - 15 3. The method of Claim 2 further comprising separating said embryonic stem
cells from said residual cells and perfusion liquid prior to seeding the tissue
matrix.
 4. The method of Claim 1 including wherein the placenta is perfused with the
anticoagulant solution by passing the anticoagulant solution into one or both
of the umbilical artery and umbilical vein.
 - 20 5. The method of Claim 1 including wherein said residual cells and perfusion
liquid are collected from the part of the placenta that was attached to the wall
of the uterus of the mother.
 6. The method of Claim 3 including wherein said embryonic stem cells are
separated from said residual perfusion liquid by centrifugation.
 - 25 7. The method of Claim 1 including wherein the tissue matrix is a decellularized
tissue.
 8. The method of Claim 7 including wherein said tissue matrix is washed to
assure removal of cellular and extracellular debris prior to said seeding.
 - 30 9. The method of Claim 8 including wherein said tissue matrix prior to said
seeding is treated with factors to enhance the adhesion of and inward
migration of said embryonic stem cells.

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10. The method of Claim 1 including wherein the tissue matrix is formed of natural or synthetic polymers.
 11. A seeded tissue matrix made by any one of the methods of Claims 1-10.
 12. A method of treating a patient to repair or replace tissue comprising:
 - 5 implanting a seeded tissue matrix at a site of the patient's body in need of treatment wherein said seeded tissue matrix is made by any one of the methods of Claims 1-10.
 13. An isolated mammalian placenta comprising a mammalian placenta that has been expelled from the body of the mammalian, exsanguinated and perfused
 - 10 with perfusion solution to obtain embryonic-like cells.
 14. The isolated mammalian placenta of Claim 13 that has been stored after expulsion from the uterus of the mammalian.
 15. The isolated mammalian placenta of Claim 13 that has been incubated to allow for the production of cells therefrom.
 16. A method of culturing an isolated mammalian placenta comprising obtaining a placenta after expulsion from the uterus, exsanguinating the placenta, and perfusing the placenta to obtain said isolated mammalian placenta.
 17. The method of Claim 16 including wherein said isolated mammalian placenta is incubated to allow for the production of embryonic-like cells from said
 - 20 isolated mammalian placenta.
 18. An isolated placental stem cell produced by the method of Claim 16.
 19. An isolated placental stem cell produced by the method of Claim 17.
 20. A pharmaceutical composition comprising an isolated placental stem cell obtained by the method of Claim 16.
 21. A pharmaceutical composition comprising an isolated placental stem cell obtained by the method of Claim 17.
 22. The method of Claim 1 including before seeding said collected stem cells onto or into said tissue matrix, stimulating said placenta with exogenous cells.
 23. The method of Claim 2 including before seeding said collected stem cells onto
 - 30 or into said tissue matrix, stimulating said placenta with exogenous cells.